

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 0 857 000 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
09.08.2000 Bulletin 2000/32

(51) Int. Cl.⁷: H04Q 11/00, H04B 10/00

(43) Date of publication A2:
05.08.1998 Bulletin 1998/32

(21) Application number: 98101612.4

(22) Date of filing: 30.01.1998

(84) Designated Contracting States:
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE

Designated Extension States:
AL LT LV MK RO SI

(30) Priority: 31.01.1997 JP 1928297

(71) Applicant: NEC CORPORATION
Tokyo (JP)

(72) Inventors:

- Takeshita, Hitoshi
Minato-ku, Tokyo (JP)
- Henmi, Naoya
Minato-ku, Tokyo (JP)

(74) Representative:

VOSSIUS & PARTNER
Siebertstrasse 4
81675 München (DE)

(54) Optical transmission system

(57) In an optical transmission system comprising an optical branch unit, first through fourth OR/OS pairs each of which includes optical receiver and optical transmitter, optical switch devices for active and standby systems, each of the optical switch devices having an N number of input ports and an M number of output ports; and an optical multiplexer for multiplexing an M number of optical signals supplied from the third OR/OS pair and an M number of optical signals supplied from the fourth OR/OS pair to produce an M number of optical signals, the optical switch devices and the first through the fourth OR/OS pairs have a 3-dB margin with respect to the input optical strength.

First and second paths are each adjusted such that the time required for transmitting an optical signal is identical for all paths. The first path is from an output port of the optical branch unit to the point where the optical signals are multiplexed in the optical multiplexer via the first and the third OR/OS pairs, and the optical switch device for the active system. The second path is from an output port of the optical branch unit to the point where the optical signals are multiplexed in the optical multiplexer via the second and the fourth OR/OS pairs, and the optical switch device for the standby system.

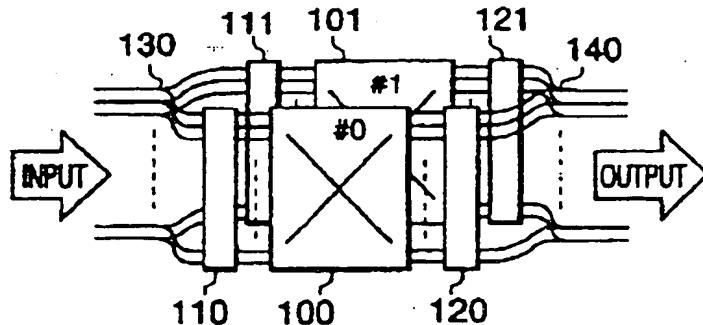


FIG.1

EP 0 857 000 A3



EUROPEAN SEARCH REPORT

Application Number
EP 98 10 1612

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.6)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
A	DE 43 06 032 A (SIEMENS AG) 1 September 1994 (1994-09-01) * abstract; claims 1-6 * ----	1-6	H04Q11/00 H04B10/00						
A	EP 0 503 849 A (AMERICAN TELEPHONE & TELEGRAPH) 16 September 1992 (1992-09-16) * abstract * * column 4, line 35-55 * -----	1-6							
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)						
			H04B H04Q						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>14 June 2000</td> <td>Dhondt, E</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	14 June 2000	Dhondt, E
Place of search	Date of completion of the search	Examiner							
THE HAGUE	14 June 2000	Dhondt, E							
<p>CATEGORY OF CITED DOCUMENTS</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document </td> <td style="width: 50%; vertical-align: top;"> T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document </td> </tr> </table>				X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document				
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document								

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 98 10 1612

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
 The members are as contained in the European Patent Office EDP file on
 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

14-06-2000

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
DE 4306032	A	01-09-1994	NONE		
EP 0503849	A	16-09-1992	US JP	5181134 A 4326334 A	19-01-1993 16-11-1992

EPO FORM PC159

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82